REMARKS

Applicant appreciates the detailed examination evidenced by the Office Action mailed September 21, 2004 (hereinafter "Office Action"), the allowance of Claims 16, 17, 29 and 30, and the indication that Claims 2-1, 13, 19, 21-28 recite patentable subject matter. Applicant respectfully requests reconsideration and withdrawal of the rejections of Claims 1, 12, 14, 15, 18 and 20 based on U.S. Patent No. 6,542, 391 to Pereira et al. (hereinafter "Pereira") for at least the reasons provided below.

The rejected independent claims are patentable over Pereira

Rejected independent Claims 1, 18 and 20 stand rejected as anticipated by Pereira, which, Applicants note, is discussed in the Background of the Invention section of the present application. Applicants respectfully traverses these rejections because Pereira merely describes a conventional CAM segmentation, and does not disclose or suggest, among other things, recitations of the independent claims that relate to virtual subpartitioning implemented by mapping a search word to a CAM comparand input.

Claim 1 recites:

> A content addressable memory (CAM) device, comprising:
> a search word input;
> a CAM core comprising a plurality of CAM cells; and
> a virtual partitioning circuit that selectively enables a partition in the CAM core *for search of a portion of a search word* at the search word input responsive to the search word, and *that provides a mapping of the search word to a comparand input to the CAM core*, the mapping defining a virtual subpartition.

The Office Action contends that the recited search word input corresponds to the address input ADDR shown in FIG. 15 of Pereira. However, Applicants note that there appears to be no *search* for a portion of an address applied to the address input ADDR. Rather, the address input ADDR is used to enable selected rows of CAM cells for read or write operations. *See* Pereira, column 22, line 53 through column 24, line 47. Moreover, Pereira appears to lack any indication that an address applied to the address input ADDR is *mapped to a comparand input to the CAM core* 1102.

Rather, as shown in FIG. 13, comparand inputs are applied to the CAM core 1102 from a comparand register 1108, which receives no input from the address input ADDR. Accordingly, Applicants respectfully submit that Pereira does not disclose or suggest several of the recitations of Claim 1, and for at least this reason, Applicants request withdrawal of the rejections of Claim 1 and Claims 12, 14 and 15 depending therefrom. Applicants further request withdrawal of the objections to Claims 2-11 and 13, as these claims depend from a patentable independent claim.

Independent Claim 18 has been amended to correct a minor typographical error. Independent Claim 18, which also stands rejected as anticipated by Pereira, recites:

> A content addressable memory (CAM) device, comprising:
> a search word input;
> a CAM core comprising a plurality of CAM cells;
> means for selectively enabling a partition in the CAM core for *search of a portion of a search word at the search word input* responsive to the search word;
> *means for mapping the search word to a virtual subpartition identifier and for providing the virtual subpartition identifier as a comparand input to the CAM core.*

As with the rejection of Claim 1, the Office Action cites FIG. 15 of Pereira as teaching all of the recitations of Claim 18. However, along lines similar to those discussed above, the cited portions of Pereira do not show *search of a portion of a search word at the search word input* or *mapping the search word to virtual subpartition identifier that serves as a comparand input to the CAM core.* Accordingly, Pereira does not disclose or suggest all of the recitations of Claim 18 and, for at least this reason, Applicants request withdrawal of the rejection of Claim 18. Applicants further request withdrawal of the objection to Claim 19, as this claim depends from a patentable independent claim.

Independent Claim 20, which also stands rejected as anticipated by Pereira, recites:
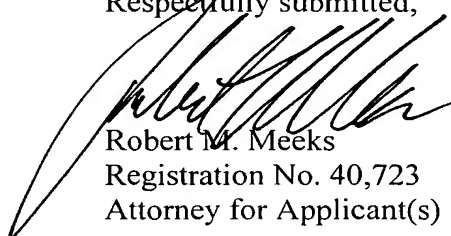
A method of operating a content addressable memory (CAM) device, the method comprising:
receiving a search word;
selectively enabling a partition in a CAM core for *search of a portion of the search word* at the search word input responsive to the search word;
mapping the search word to a virtual subpartition identifier; and
searching the partition for the portion of the search word in conjunction with *searching the CAM core for the virtual subpartition identifier* to thereby produce a search result for the search word.

Pereira fails to disclose the highlighted portions of Claim 20 for reasons similar to those discussed above with reference to the rejections of Claims 1 and 18. In particular, Pereira fails to disclose or suggest searching of a portion of the alleged "search word", i.e., an address to the address input ADDR, and provides no indication that the address input ADDR is mapped to a virtual subpartition identifier for which the CAM core 1102 is searched. Accordingly, Pereira also fails to disclose or suggest all of the recitations of independent Claim 20 and, for at least this reason, Applicants request withdrawal of the rejection of Claim 20, and withdrawal of the objections to Claims 21-28.

Conclusion

Applicant submits that the objections to and rejections of the claims are overcome for at least the reasons discussed above, and that the claims are, therefore, in condition for allowance, which is respectfully requested. Applicant encourages the Examiner to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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